

Title (en)

Ferrofluid composition, method of making, and apparatus and method using same.

Title (de)

Magnetische Flüssigkeit, Methode ihrer Herstellung und Apparat und Methode zu ihrer Anwendung.

Title (fr)

Composition liquide magnétique, méthode de fabrication et dispositif et méthode pour son application.

Publication

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Application

EP 86303840 A 19860521

Priority

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- US 77362785 A 19850909

Abstract (en)

A stable ferrofluid composition and a method of preparing and using the ferrofluid composition, and a ferrofluid seal apparatus is described. The ferrofluid composition comprises a liquid carrier, ferromagnetic particles sufficient to provide magnetic properties to the ferrofluid dispersed in the liquid carrier and a dispersing amount of a cationic surfactant to provide a stable ferrofluid composition. The stable ferrofluid compositions have improved electrical conductivity and are useful, e.g. in sealing computer disc drives. Thus, an electrically conductive ferrofluid-film-bearing apparatus and seal apparatus (40) for a shaft (46) employs a low-viscosity, electrically conductive ferrofluid composition (62, 50) as an O-ring seal and as a ferrofluid bearing surrounding shaft (46) which composition comprises a liquid carrier, and contains in combination an electrically conductive amount of a cationic surfactant and dispersed carbon particles, to obtain a low-electrical-resistivity ferrofluid having a low viscosity.

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CPC (source: EP)

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Cited by

USRE41626E; EP0250236A1; EP1094104A1; US6025665A; US5612838A; DE3709852A1; US6078121A; EP0410293A1; US5089732A; EP0312103A3; CN114729668A; US6798090B2; US6768230B2; US6324745B1; WO0065591A1; WO03071663A1; US6917131B2; US6833780B2; US7288860B2; US6335310B1; US6812598B2; US11380469B2; US11976690B2; WO9524033A1; WO2015183293A1

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